BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Microgrids Pursuant to Senate Bill 1339 and Resiliency Strategies.	Rulemaking 19-09-009 (Filed September 12, 2019)

MRC RESPONSE TO PROPOSED MICROGRID INCENTIVE PROGRAM IMPLEMENTATION PLAN OF SAN DIEGO GAS & ELECTRIC COMPANY, PACIFIC GAS AND ELECTRIC COMPANY, AND SOUTHERN CALIFORNIA EDISON COMPANY

C. Baird Brown
eco(n)law LLC
230 S. Broad Street
Philadelphia, PA 19102
p. 215-586-6615
m. 267-231-2310
baird@eco-n-law.net
Attorney for
Microgrid Resources Coalition

Allie Detrio
Senior Advisor
Microgrid Resources Coalition

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I. Introduction

The Microgrid Resources Coalition (**MRC**) respectfully files its comments in response to the R.19.09-009 Proposed Microgrid Incentive Program (**MIP**)Implementation Plan of San Diego Gas & Electric Company, Pacific Gas and Electric Company, and Southern California Edison Company (**MIP Proposed Plan**) submitted in the above captioned proceeding. The MRC appreciates this opportunity to provide comments on the MIP Proposed Plan.

The MRC is a consortium of leading microgrid owners, operators, developers, suppliers, and investors formed to advance microgrids through advocacy for laws, regulations and tariffs that support their access to markets, compensate them for their services, and provide a level playing field for their deployment and operations. In pursuing this objective, the MRC intends to remain neutral as to the technology deployed in microgrids and the ownership of the assets that form a microgrid. The MRC's members are actively engaged in developing microgrids in many regions of the United States including many who are actively engaged in microgrid

development in California.[1] MRC members have also been operating sophisticated microgrids over an extended period of time (some for over 30 years). They are at the cutting edge of microgrid technology.

The mission of the MRC is to promote microgrids as energy resources by advocating for policy and regulatory reforms that recognize and appropriately value the services that microgrids offer, while assuring non-discriminatory access to the grid for various microgrid configurations and business models. We generally support disaggregated, fair pricing for well-defined services both from the grid to microgrids as well as from microgrids to the grid. We promote community-based resilience standards and support utilities that are working toward new business models that value resilient distributed resources. We work for the empowerment of energy customers and communities.

The MRC strongly supports efforts to bring microgrids to disadvantaged vulnerable communities. Equally important, we believe, is empowering such communities to identify their own needs and develop their own projects. The Joint Utilities[2] have made a helpful start at fleshing out their role as an advisor and facilitator in an incentive program. Our suggestions below are focused on ensuring that the program is a good practical fit for microgrid development and operation. Unless otherwise defined, we use capitalized terms as defined in the MIP Proposed Plan.

II. Comments

1. *Extend the Implementation Period.* We strongly support the Joint Utilities' request to extend the eligibility period. We note that even the extended window will be insufficient if interconnection of Project Resources is not promptly accomplished. We suggest that the Commission require expedited interconnection procedures for Project Resources in MIP microgrids.

[1] Members of the MRC include: Bloom Energy, Emory University, Engie, Icetec, Mainspring Energy, Massachusetts Institute of Technology, Princeton University, Resilience Plus, Scale Microgrid Solutions, Schneider Electric, University of Missouri and the University of Texas at Austin. The MRC's comments represent the perspective of the coalition and should not be construed as speaking for individual members.

[2] San Diego Gas & Electric Company, Pacific Gas and Electric Company, and Southern California Edison Company.

2. *Community Technical Advisors and Contractors.* The joint utilities recognize that Communities will need independent engineering and development assistance to apply for MIP participation and to develop a microgrid. They define Consulting Engineer[3] but do not use the term anywhere in the MIP Proposed Plan. In connection with the Step 1 initial program consultation they ask for the "name of the MIP Applicant's technical consultant or engineer, if any."[4] In connection with the Step 3 technical consultation they require an engagement letter from the "Applicant Engineer' and separately "Name and contact for any engineering or development resources assisting the community."[5] Finally, they refer in at least three places to community "technical/engineering partners."[6] We suggest that the Joint Utilities clarify what is required and what is permitted and in what context. We particularly suggest including "microgrid developer" as a permitted type of "Consulting Engineer" (or whatever term the Joint Utilities finally select).

The different stages of utility consultation laid out in the MIP Proposed Plan are useful. In particular, utility information about their distribution assets that may be included in a microgrid and the capacities and limitations of those assets will be critical. However, we anticipate that communities will want independent advice on how to achieve their resilience and other goals. In their Stage 2: Consultation & Application diagram[7] the Utilities place "Identify Potential Resilience Solutions" entirely within the utilities scope. In our experience and based upon their participation in this docket to date, the utilities have limited familiarity with microgrid planning and capabilities. We suggest that the MIP plan not give preference to utility design assistance except where it implicates the capabilities of the utility distribution system and the safety of the larger grid. We believe that funding for independent technical consultation in the planning stage as proposed in Step 2[8] will be critical for many communities with limited resources and strongly support the development grant proposal.

3. *Microgrid Development*. The MRC supports the incentive program and believes it can help create a level playing field for disadvantaged and vulnerable communities. The Joint Utilities

[3] MIP Proposed Plan at 3.
[4] MIP Proposed Plan at 16.
[5] MIP Proposed Plan at 21.
[6] MIP Proposed Plan at 11, 21, and 23.
[7] MIP Proposed Plan, Figure 2, at 15.
[8] MIP Proposed Plan at 20.

have answered the Commission's questions, but the MIP Proposed Plan leaves many unanswered questions for communities. It appears, though the plan doesn't specifically say so, that the utilities will make payments to communities for the entire cost of installing Project Resources and Balance of System. This appears to include both IFOM and BTM resources.[9] Elsewhere, the MIP Proposed Plan says that the MIP awardee is responsible for all the costs of ownership of project assets, [10] but there are mixed statements about whether it must actually own them or may have operating control. Communities may be legally disabled, and also may not wish to, own BTM resources (except on their own properties), but BTM resources could certainly make a valuable contribution to a community microgrid. The final MIP plan should clarify these issues

Even if all acquisition costs are paid for, revenues to pay operating costs must come from somewhere. The MIP Proposed Plan appears to be completely silent on the question of payments to Project Resource owners. We assume that Project Resources would be able to interconnect under NEM tariffs or as qualified facilities under Rule 21 or as wholesale resources under the WDAT. Even with full funding of capital costs, it will be difficult for MIP applicants to complete applications without assurances that they will have operating revenues.

Governmental organizations developing community microgrids will be subject to state procurement rules, even if capital costs are paid for. In doing so, they will have the benefit of the Government Code provisions relating to Energy Conservation Contracts.[11] This allows for flexible procurement and financing but requires that the project be self-funding from the savings. It requires the government agency to make a finding:

> "That the anticipated cost to the public agency for thermal or electrical energy or conservation services provided by the energy conservation facility under the contract will be less than the anticipated marginal cost to the public agency of thermal, electrical, or other energy that would have been consumed by the public agency in the absence of those purchases."[12]

While this would be reasonably straightforward for behind the meter generation serving the government's own facilities, it would be far more complicated for IFOM facilities. There may be other forms of ownership and contracting that avoid these problems, but the challenges are not

[9] MIP Proposed Plan at 7-8 (definition of Project Resources).
[10] MIP Proposed Plan at 43,
[11] Govt. Code Section 4217.10 *et seq.*
[12] Govt. Code Section 4217.12(a)(1).

trivial. One way to simplify it would be to permit sales of power within the microgrid by Project Resource owners, but the MIP proposed plan is silent on that point. The MIP also does not permit BTM renewable generation that serves the microgrid in island mode to count in the scoring for new renewable generation.[13] New BTM renewable generation will meet the state goals for renewables megawatt for megawatt as compared with IFOM generation, and this unwarranted discrimination will further complicate project structuring.

At a larger level, the point of community microgrids should be to empower communities. Communities should decide not only what they need but also how to procure and operate it. The tariff proposal would attach private contracts between communities and their contractors to the Utility MOA,[14] potentially giving the utilities the right to interfere in the communities' contractual arrangements. Other than design criteria typical to any interconnection, we suggest that utilities should put their operating requirements in their own agreements and stay out of community contract arrangements.

4. *Microgrid Operation*. The MIP Proposed Plan defines "Microgrid Controller" as

> "The Distribution Provider's system that monitors and controls the Distribution System and Project Resources within the Microgrid boundary when islanded, and coordinates with non-project resources that support the Microgrid."[15]

It separately defines "Resource Controller" as:

> "A System, distinct from the Microgrid Controller, that controls the operation of the MIP Project Resources."[16]

It defines "Permission to Island as:

> Distribution Provider's express written permission before a MIP Project may operate in Island Mode.

In the definition of Island Mode it states:

> The Distribution Provider will operate the Microgrid in Island Mode by (i) direct dispatch of Project Resources within the MIP Project Microgrid Boundary, and/or (ii) by authorizing

[13] MIP Proposed Plan at 19.
[14] MIP Proposed Plan at 38.
[15] MIP Proposed Plan at 5.
[16] Id.

> Project Resources to operate within parameters specified by the Distribution Provider for voltage, frequency, and power quality.

However, elsewhere the MIP Proposed Plan states that the MIP Awardee is responsible for operating Project Resources and any demand-side management resources[17] and will "bear all costs related to ownership, operation, scheduling and maintenance" of those resources.[18] We are concerned that this welter of requirements will simply result in confusion.[19]

The purpose of a microgrid controller is to manage the internal microgrid resources.[20] The MIP Plan Proposal assumes that the utility is in charge of islanding and operating the microgrid in island mode. This represents a fundamental contradiction in the control function. It assumes that the utility can suddenly step in and optimize Project Resources with which it is generally unfamiliar because it does not typically operate them. While the utilities could potentially take on operation of a few microgrids, in the long run this is not a good model for commercialization of microgrids. The utility does not have enough dedicated staff to pull away for microgrid operation at the exact time when the utility system is under stress.

As with any interconnected generator, there can be some risk to the utility from the microgrid, however a far larger risk is imposed on the microgrid by the grid. MRC members are not aware of any instance in California or elsewhere where microgrid failure has damaged the grid. The grid, on the other hand has demonstrated repeated instability that can threaten the integrity of microgrids. The microgrid operator has integrated digital controls, while the grid is largely analog. Microgrid operators monitor grid stability and enter island mode to protect the microgrid. They exit the grid at a zero export/import state to avoid complicating grid operation at times of stress. If MIP awardees bear all the risk of the Project Resources and balance of system, they need to be able to manage the microgrid to protect and optimize Project Resources.

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[17] MIP Proposed Plan at 42.

[18] MIP Proposed Plan at 43.

[19] We note that the utilities also suggest that disadvantaged communities should give the utilities performance guarantees (MIP Proposed Plan at 39). The suggestion that large revenue protected utilities should extract guarantees from disadvantaged communities shows an unfortunate lack of sensitivity.

[20] *See e.g.* Douglas R. Danley, "Defining a Microgrid Using IEEE 2030.7," https://www.cooperative.com/programs-services/bts/Documents/TechSurveillance/Surveillance-Defining-Microgrids-November-2019.pdf ; Dr. Arindam Maitra, "Grid Interactive Microgrid Controller for Resilient Communities," https://www.osti.gov/biblio/1525785-grid-interactive-microgrid-controller-resilient-communities-final-report

III. Conclusion

The MRC appreciates the opportunity to provide comments on the MIP Proposed Plan and asks that the Commission direct the Joint Utilities to clarify the MIP Proposed Plan with the goal of supporting and empowering disadvantaged and vulnerable communities.

Respectfully submitted,

/s/ Baird Brown

C. Baird Brown
eco(n)law LLC
230 S. Broad Street
Philadelphia, PA 19102
p. 215-586-6615
m. 267-231-2310
baird@eco-n-law.net

Attorney for
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